Materials Science and Engineering, 42 (1980) 367
© Elsevier Sequoia S.A., Lausanne — Printed in the Netherlands

Author Index

Breval, E., 361
Burstein, G. T., 207

Castaing, R., 13
Cazaux, J., 45
Cheyssac, P., 81
Clarke, K. Mc., 71

Dudek, H. J., 39
Dumoulin, Ph., 249
Dunlop, G. L., 273

Elfström, B.-O., 173

Fadley, C. S., 111
Flodström, S. A., 31

Garrigos, R., 81
Goldberg, S., 111
Grabke, H. J., 91
Grande, A. P., 321
Guiraldenq, P., 281
Guttmann, M., 227, 249

Håkansson, B., 155
Hall, N. F. T., 111
Hallwig, D., 59
Hofmann, S., 55
Holm, R., 337
Holmlid, L., 121
Hondros, E. D., 233
Hörz, G., 145
Hultquist, G., 199
Hunt, R., 71

Jäger, I., 245
Janssen, E., 309
Järnström, L., 353
Johannessen, J. S., 321
Johansson, T., 353
Juvé-Duc, D., 281

Kalkoffen, G., 31
Kamf, A., 337
Kanbach, H., 145
Karlsson, S.-E., 345
Kasemo, B., 23
Kofman, R., 81
Kono, S., 111
Kunz, C., 31

Lea, C., 233
Leroy, V., 289
Leygraf, C., 199
Lindgren, S. Å., 127
Lloyd, J. T., 111
Lundström, I., 141

Marcus, P., 191
Martinson, C. W. B., 31
Martinsson, K., 337
Matsuda, S., 181
McMahon, C. J., Jr., 215

Nilsson, J.-O., 273
Nilsson, P., 155
Nilsson-Jatko, P.-E., 345
Notevarp, T., 321

Olefjord, I., 161, 191, 329
Olsson, J. O., 121
Oudar, J., 101, 191

Pendry, J. B., 111
Petersson, L.-G., 111
Ponec, V., 135

Rilby, U., 329
Rivière, J. C., 49
Roberts, E. F. I., 71
Rönnhult, T., 329

Sandström, T., 65
Schachtner, R., 59
Seah, M. P., 233
Sockel, H. G., 59
Söderberg, D., 141
Stenberg, M., 65
Stiblert, L., 65
Sugimoto, K., 181
Sundberg, R., 337
Svensson, C., 141

Törnqvist, E., 23
Treheux, D., 281

Vannerberg, N.-G., 155
Vetter, H., 145
Vuorinen, S., 361

Walldén, L., 23, 127
Werner, H. W., 1
Wertheim, G. K., 85
Wild, R. K., 265

Materials Science and Engineering, 42 (1980) 368 - 371
© Elsevier Sequoia S.A., Lausanne — Printed in the Netherlands

Subject Index

Adsorbate
  determination of geometries of from final state scattering in X-ray photoemission: monoxide and oxygen on (001) Ni, 111
Adsorption
  changes of photoemission spectra and surface electronic structure induced by, for (111) Cu/Cs, 127
  and segregation and reactions of non-metal atoms on Fe surfaces, 91
Alloys
  Al, surface state and weldability of, 329
  Cu, surface composition of and the influence of outdoor exposure, 337
  Cu-based, surface composition of studied with Auger electron spectroscopy: the influence of manufacture and storage, 345
  Fe–Cr, passive and transpassive films on in acid and neutral solutions, 181
  optical properties of, 71
  surface composition and catalysis by, and the relevance of surface science to catalysis, 135
Aluminium
  chemical characterization of industrial steel and Al sheet surfaces by secondary ion mass spectrometry, glow discharge optical spectroscopy and other surface-sensitive techniques, 309
  oxygen interaction with clean Al and Mg films investigated by synchroton-radiation-induced photoemission, 31
  surface state and weldability of Al alloys, 329
Analysis
  of thin films and surfaces, modern methods for, 1
Auger electron spectroscopy
  of corroded metal surfaces, effects of electron bombardment during, 207
  co-segregation at free surfaces studied by, and the influence of chemical interactions between metallic and metalloid solutes on their segregation in α-Fe, 249
  for depth profiling and analysis of defects in tinplate surfaces, 321
  ductility variations in stainless steel casts examined by, 265
  and electron spectroscopy for chemical analysis, studies of the influence of S on the passivation of Ni by, 191
  surface composition of Cu-based alloys studied with, and the influence of manufacture and storage, 345

Bombardment
  electron, calculation of the spatial distribution of ionization density in a material due to, 39
  electron, effects of during Auger electron analysis of corroded metal surfaces, 207
  ion, effect of conditions of on the chemical profile through the surface of tinplate, 49

Caesium
  adsorption-induced changes of photoemission spectra and surface electronic structure: (111) Cu/Cs, 127
Carbides
  structure and hardness of titanium carbide coatings on hard metals, 361
Carbon
  desorption of K from C film surfaces, 121
Catalysis
  by alloys, and surface composition: the relevance of surface science to catalysis, 135
Catalytic reactions
  on metals, studied by work function measurements, 141
Chemiluminescence
  surface, metal–gas reactions studied by, 23
Chloride ions
  effect of on passive layers on stainless steels, 173
Chromium
  passive and transpassive films on Fe–Cr alloys in acid and neutral solutions, 181
Coatings
  titanium carbide, on hard metals, structure and hardness of, 361
Complex formation
  at an Fe surface, measurements of, 155
Composition
  surface, and catalysis by alloys: the relevance of surface science to catalysis, 135
  surface, of Cu alloys and the influence of outdoor exposure, 337
  surface, of Cu-based alloys studied with Auger electron spectroscopy: the influence of manufacture and storage, 345
Copper
  adsorption-induced changes of photoemission spectra and surface electronic structure: (111) Cu/Cs, 127
  surface composition of Cu alloys and the influence of outdoor exposure, 337
  surface composition of Cu-based alloys studied with Auger electron spectroscopy: the influence of manufacture and storage, 345
Corrosion
  effects of electron bombardment during Auger electron analysis of corroded metal surfaces, 207

Decomposition
  of hydrocarbons on transition metals, influence of surface segregation of oxygen or nitrogen on, 145
Defects
  analysis of, and Auger depth profiling in tinplate surfaces, 321
Depth profiling
  Auger, and analysis of defects in tinplate surfaces, 321

Desorption
of K from C film surfaces, 121
Diffusion
self-, of Fe in an α–γ interface compared with diffusion in grain boundaries, 281
Ductility
variations of in stainless steel casts examined by Auger electron spectroscopy, 265

Electron bombardment
calculation of the spatial distribution of ionization density in a material due to, 39
effects of during Auger electron analysis of corroded metal surfaces, 207
Electronic structure
surface, and photoemission spectra, adsorption-induced changes of, for (111) Cu/Cs, 127
Electroreflectance
investigation of metallic surfaces through, 81
Ellipsometry
a new method for measurements on surfaces and surface layers using, 65
Embrittlement
temper, and ternary equilibrium segregation, 227
Exchange processes
slow, at metal and oxide surfaces and interfaces, investigations of using secondary ion mass spectrometry, 59
Exposure
outdoor, influence of on the surface composition of Cu alloys, 337

Fracture
intergranular, and solute segregation in steels, a status report, 215
Fragility index
intergranular, an engineering materials parameter, 233

Gas
metal–gas reactions studied by surface chemiluminescence, 23
Glow discharge optical spectroscopy
and secondary ion mass spectrometry and other surface-sensitive techniques, chemical characterization of industrial steel and Al sheet surfaces by, 309
Grain boundaries
influence of interfacial structure on the high temperature mechanical behaviour of, 273
self-diffusion of Fe in an α–γ interface compared with diffusion in, 281

Hardness
and structure of titanium carbide coatings on hard metals, 361
Hydrocarbons
on transition metals, influence of surface segregation of oxygen or nitrogen on the decomposition of, 145
Hydrogen
reduction of sulphide and oxide compounds on high speed steel powder in a hydrogen gas stream, 353

Imaging techniques
and probing techniques for surface studies, 13
Impurities
metallic and non-metallic, on the co-segregation of at interfaces, 245
Interactions
chemical, between metallic and metalloid solutes, influence of on their segregation in α-Fe, 249
oxygen, with clean Al and Mg films investigated by synchroton-radiation-induced photoemission, 31
S–metal, 101
Interfaces
α–γ, self-diffusion of Fe in, compared with diffusion in grain boundaries, 281
on the co-segregation of metallic and non-metallic impurities at, 245
structure of, influence of on the high temperature mechanical behaviour of grain boundaries, 273
and surfaces, metal and oxide, investigations of slow exchange processes at using secondary ion mass spectrometry, 59
Ion bombardment
effect of conditions of on the chemical profile through the surface of tinplate, 49
Ionization density
calculation of the spatial distribution of in a material due to electron beam irradiation, 39
Iron
adsorption, segregation and reactions of non-metal atoms on Fe surfaces, 91
influence of chemical interactions between metallic and metalloid solutes on their segregation in α-Fe, 249
measurements of complex formation at an Fe surface, 155
passive and transpassive films on Fe–Cr alloys in acid and neutral solutions, 181
self-diffusion of Fe in an α–γ interface compared with diffusion in grain boundaries, 281
Irradiation
electron beam, calculation of the spatial distribution of ionization density in a material due to, 39

Magnesium
oxygen interaction with clean Al and Mg films investigated by synchroton-radiation-induced photoemission, 31
Manufacture
and storage, influence of on the surface composition of Cu-based alloys, studied with Auger electron spectroscopy, 345
Materials parameter
engineering, intergranular fragility index, 233
Metallurgy
applications of surface analytical techniques in, 289
Metals
catalytic reactions on, studied by work function measurements, 141
corroded, effects of electron bombardment during Auger electron analysis of surfaces of, 207
hard, structure and hardness of titanium carbide coatings on, 361

Metals
investigation of surfaces of through electroreflectance, 81
metal–gas reactions studied by surface chemiluminescence, 23
noble and rare earth, surface phenomena on, 85
and oxides, investigations of slow exchange processes at surfaces and interfaces of using secondary ion mass spectrometry, 59
S–metal interactions, 101
Microanalysis
and bulk and surface microscopy, electron spectroscopy for, 45

Nickel
determination of adsorbate geometries from final state scattering in X-ray photoemission: monoxide and oxygen on (001) Ni, 111
studies of the influence of S on the passivation of Ni by Auger electron spectroscopy and electron spectroscopy for chemical analysis, 191
Nitrogen
influence of surface segregation of oxygen or nitrogen on the decomposition of hydrocarbons on transition metals, 145

Optical properties
of alloys, 71
Oxides
and metals, investigations of slow exchange processes at surfaces and interfaces of using secondary ion mass spectrometry, 59
and sulphides on high speed steel powder, reduction of in a hydrogen gas stream, 353
Oxygen
determination of adsorbate geometries from final state scattering in X-ray photoemission: monoxide and oxygen on (001) Ni, 111
influence of surface segregation of oxygen or nitrogen on the decomposition of hydrocarbons on transition metals, 145
interaction of with clean Al and Mg films investigated by synchroton-radiation-induced photoemission, 31

Passivation
on Ni, studies of the influence of S on by Auger electron spectroscopy and electron spectroscopy for chemical analysis, 191
Passive films
on stainless steels, effect of chloride ions on, 173
and transpassive films on Fe–Cr alloys in acid and neutral solutions, 181
Passive state
of stainless steels, 161
Photoemission
synchroton-radiation-induced, oxygen reaction with clean Al and Mg films investigated by, 31
X-ray, determination of adsorbate geometries from final state scattering in, for monoxide and oxygen on (001) Ni, 111
Photoemission spectra
and surface electronic structure, adsorption-induced changes of, for (111) Cu/Cs, 127

Potassium
desorption of K from C film surfaces, 121
Probing techniques
and imaging techniques for surface studies, 13
Profile
chemical, through the surface of tinplate, effect of ion bombardment conditions on, 49
Protective films
highly, on stainless steels, 199

Reactions
adsorption, segregation and, of non-metal atoms on Fe surfaces, 91
metal–gas, studied by surface chemiluminescence, 23
Reduction
of sulphide and oxide compounds on high speed steel powder in a hydrogen gas stream, 353

Scattering
final state, in X-ray photoemission, determination of adsorbate geometries from, for monoxide and oxygen on (001) Ni, 111
Secondary ion mass spectrometry
and glow discharge optical spectroscopy and other surface-sensitive techniques, chemical characterization of industrial steel and Al sheet surfaces by, 309
investigations of slow exchange processes at metal and oxide surfaces and interfaces using, 59
Segregation
adsorption and, and reactions of non-metal atoms on Fe surfaces, 91
in α-Fe, influence of chemical interactions between metallic and metalloid solutes on their, 249
co, of metallic and non-metallic impurities at interfaces, 245
solute, and intergranular fracture in steels, a status report, 215
surface, of oxygen or nitrogen, influence of on the decomposition of hydrocarbons on transition metals, 145
surface, during sputtering at elevated temperatures, 55
ternary equilibrium, and temper embrittlement, 227
Solutes
metallic and metalloid, influence of chemical interactions between on their segregation in α-Fe, 249
segregation of and intergranular fracture in steels, a status report, 215
Spectroscopy
Auger electron and electron, for chemical analysis, studies of the influence of S on the passivation of Ni by, 191
electron, for bulk and surface microscopy and microanalysis, 45
Sputtering
at elevated temperatures, surface segregation during, 55

Steel
industrial, and Al sheet surfaces, chemical characterization of by secondary ion mass spectrometry, glow discharge optical spectroscopy and other surface-sensitive techniques, 309
powdered high speed, reduction of sulphide and oxide compounds on in a hydrogen gas stream, 353
solute segregation and intergranular fracture in, a status report, 215
stainless, ductility variations in casts of examined by Auger electron spectroscopy, 265
stainless, effect of chloride ions on passive layers on, 173
stainless, highly protective films on, 199
stainless, passive state of, 161
Storage
and manufacture, influence of on the surface composition of Cu-based alloys, studied with Auger electron spectroscopy, 345
Structure
and hardness of titanium carbide coatings on hard metals, 361
interfacial, influence of on the high temperature mechanical behaviour of grain boundaries, 273
Sulphides
and oxides on high speed steel powder, reduction of in a hydrogen gas stream, 353
Sulphur
S–metal interactions, 101
studies of the influence of S on the passivation of Ni by Auger electron spectroscopy and electron spectroscopy for chemical analysis, 191
Surface electronic structure
and photoemission spectra, adsorption-induced changes of, for (111) Cu/Cs, 127
Surface phenomena
on noble and rare earth metals, 85
Surfaces
Al sheet and industrial steel, chemical characterization of by secondary ion mass spectrometry, glow discharge optical spectroscopy and other surface-sensitive techniques, 309
analytical techniques for, metallurgical applications of, 289
C film, desorption of K from, 121
composition of and catalysis by alloys: the relevance of surface science to catalysis, 135
corroded metal, effects of electron bombardment during Auger electron analysis of, 207
of Cu alloys, composition of and the influence of outdoor exposure, 337
of Cu-based alloys, composition of studied with Auger electron spectroscopy: the influence of manufacture and storage, 345
electron spectroscopy for bulk and surface microscopy and microanalysis, 45
Fe, adsorption, segregation and reactions of nonmetal atoms on, 91
free, co-segregation at studied by Auger electron spectroscopy: the influence of chemical interactions between metallic and metalloid solutes on their segregation in α-Fe, 249
and interfaces, metal and oxide, investigations of slow exchange processes at using secondary ion mass spectrometry, 59
metallic, investigation of through electroreflectance, 81
probing and imaging techniques for studies of, 13
segregation of oxygen or nitrogen to, influence of on the decomposition of hydrocarbons on transition metals, 145
segregation to during sputtering at elevated temperatures, 55
and surface layers, a new ellipsometric method for measurements on, 65
and thin films, modern methods for analysis of, 1
tinplate, Auger depth profiling and analysis of defects in, 321
Surface state
and weldability of Al alloys, 329

Thin films
and surfaces, modern methods for analysis of, 1
Tinplate
Auger depth profiling and analysis of defects in surfaces of, 321
effect of ion bombardment conditions on the chemical profile through the surface of, 49
Titanium
structure and hardness of titatium carbide coatings on hard metals, 361
Transition metals
influence of surface segregation of oxygen or nitrogen on the decomposition of hydrocarbons on, 145
Transpassive films
and passive films on Fe–Cr alloys in acid and neutral solutions, 181

Weldability
and surface state of Al alloys, 329
Work function
catalytic reactions on metals studied by measurements of, 141

X-ray photoemission
determination of adsorbate geometries from final state scattering in, for monoxide and oxygen on (001) Ni, 111